

**REMARKS****Restriction Requirement**

Applicant hereby affirms the election, with traverse, of Group I, claims 1-34 and 55-63.

**Information Disclosure Statement**

The examiner objected to certain inaccuracies and/or duplications in the Invention Disclosure forms already filed. Appropriate corrections have been made and the corrected forms are submitted herewith.

**Specification**

The examiner objected to the abstract of the invention as failing to adequately describe the scope of the invention. A revised abstract is submitted.

**Claim objections**

The examiner objected to claim 30 as a duplicate of claim 21. Claim 30 has been canceled.

**Rejections Under 35 U.S.C. § 112**

The examiner rejected claims 2-4 as indefinite. Claim 1 has been canceled and new claim 76 has been added. New claim 76 states that "at least one member selected from the group consisting of X and Y comprises one or more a spacer groups." Claims 2-4 specify that "Y comprises a polymerizable group." Since "comprising" is an open ended term, the foregoing limitations are not in conflict. Applicant respectfully requests that the examiner withdraw the rejection of claims 2-4 as indefinite.

**Double Patenting**

The examiner found that claims 1-34 and 55-63 conflict with claims 1-18, 24-35, and 39-107 of U.S. Application No. 10/056,121, which was allowed 7/28/03. Composition claims 55-63 are canceled, with prejudice. Application No. 10/056,121 has been withdrawn from issuance for consideration of additional references; however, if a patent issues based on Application No. 10/056,121, Applicant submits that the claims currently pending in the present application--which are directed to a method for "producing a blend comprising randomly substituted mesogens"--will not conflict with the composition claims pending in application Serial No. 10/056,121. Applicant respectfully requests withdrawal of the double patenting rejection.

**Rejections Under 35 U.S.C. § 102****-Rejection over Seiberle**

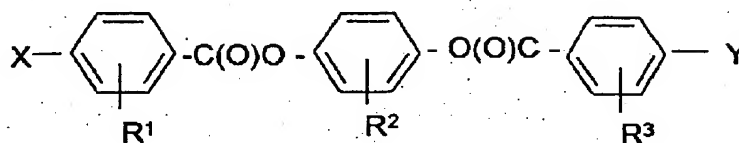
The examiner rejected claims 1-34 and 55-63 as anticipated under 35 U.S.C. § 102(e) by Seiberle.

**-Response**

Claims 55-63 have been canceled. The rejection is moot as to these claims. Applicant does not concede that Seiberle is correctly cited against the claims under 35 U.S.C. § 102(e). The following assumes, for purposes of argument only, that Seiberle is correctly cited.

The pending claims are directed to a method--not to a composition. The examiner's arguments focus on the polymers used and/or produced in the cited references and not on the methods described in the references.

The claimed method requires "providing one or more platform molecules having the following general structure:



and "independently substituting at least one member selected from the group consisting of X and Y with a polymerizable group, thereby producing a blend of randomly substituted mesogens." See claim 76.

The examiner has not established a case of *prima facie* anticipation of the pending method claims over Seiberle. In order to establish a case of *prima facie* anticipation, the examiner must establish that Seiberle discloses every limitation of the claimed method either explicitly or inherently. *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1346, 51 USPQ2d 1943, 1945 (Fed. Cir. 1999). The examiner has not met this burden.

At least Example 1 of Seiberle appears to teach one to produce mesogens by:

- (a) providing 2,5- dihydroxybenzoic acid (col. 24, ll. 20-bottom);
- (b) reacting the halogen of a bulky organic group (such as the "2-methylacrylic acid 11-bromoundecyl ester" shown at col. 23, ll. 40) with the carboxyl group of the 2,5- dihydroxybenzoic acid (col. 24, ll. 20-bottom), producing a 2,5-dihydroxybenzoic (substituted) acid (see col. 24, l. 20); and

- (c) reacting the 2,5-dihydroxybenzoic (substituted) acid with aromatic groups already comprising polymerizable end groups, such as the "4-carboxyl cinnamic acid methyl ester" at col. 23, l. 25.

The examiner has not pointed to a teaching or suggestion of a method in which the claimed "platform molecule(s)" comprising three aromatic rings or more are provided and then "at least one member selected from the group consisting of X and Y [is independently substituted] with a polymerizable group, thereby producing a blend of randomly substituted mesogens." The examiner therefore has not established a case of *prima facie* anticipation over Seiberle.

The examiner also has not established that the claims are *prima facie* obvious over Sieberle. In order to establish a case of *prima facie* obviousness, the examiner must point to two things in Sieberle or in another cited reference and not in the applicant's disclosure: (1) the suggestion of the claimed method, and (2) the expectation of its success. *In re Vaack*, 20 U.S.P.Q.2d 1438, 1442 (Fed. Cir. 1991). *See also* MPEP 2143. The examiner has not pointed to (1) or (2) in Sieberle. Nor has the examiner pointed to a teaching or suggestion in the cited references that it would be desirable to make the modifications that would be required to result in the claimed method. *In re Brouwer*, 37 U.S.P.Q.2d 1663, 1666 (Fed. Cir. 1995).

Applicant respectfully requests that the rejection based on Sieberle be withdrawn.

**-Rejection over Schadt**

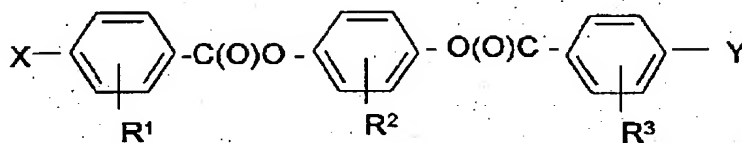
The examiner rejected claims 1, 5, 8, 11, 14, 31, 33, and 55-62 anticipated by U.S. Patent No. 6,144,428 to Schadt ("Schadt").

**-Response**

The examiner also has not established a case of *prima facie* anticipation of the listed claims over Schadt.

The rejection again focuses on the **structure of the liquid crystal molecules** made by Schadt, and **not on the method** by which Schadt makes the liquid crystal molecules. With respect to how the molecules are made, Schadt teaches that "[s]ubstances having these properties in principle, that is certain cross-linkable liquid crystalline diacrylates and diepoxides, have been known for some years." Col. 1, ll. 21-23. Applicant has not found teachings in Schadt regarding how to make the monomers described at the bottom of cols. 3-4. Schadt apparently assumes that the monomers are made using known methods.

In any event, the examiner has not pointed to a teaching or suggestion in Schadt of a method comprising providing "one or more platform molecules having the following general structure:



and "independently substituting at least one member selected from the group consisting of X and Y with a polymerizable group, thereby producing a blend of randomly substituted mesogens."

The examiner also has not established that the claims are *prima facie* obvious over Schadt. The examiner has not pointed to a teaching in Schadt or in another cited reference of: (1) the suggestion of the claimed method, or (2) the expectation of its success. *In re Vaeck*, 20 U.S.P.Q.2d at 1442. Nor has the examiner pointed to a teaching or suggestion in Schadt or another cited reference that it would be desirable to make the modifications that would be required to result in the claimed method. *In re Brouwer*, 37 U.S.P.Q.2d 1663, 1666 (Fed. Cir. 1995).

Applicant respectfully requests that the rejection over Schadt be withdrawn.

**-Rejection over Joliffe**

The examiner rejected claims 1-34 and 55-63 as anticipated by U.S. Patent No. 6,117,920 to Joliffe, et al. ("Joliffe").

**Response**

The examiner has established a case of *prima facie* anticipation over Joliffe. Joliffe describes many different polymers. However, the only description of a **method** for making these polymers that Applicant has found in Joliffe is the following:

The compounds (1) and (2) are prepared in analogy to the methods described in WO 93122397 and DE 195 04 224.

See col. 23, ll. 43-44 and col. 25, l. 16-17. WO 93122397 and DE 195 04 224 appear to correspond to U.S. Patent No. 5,871,665 to Coates, et al. ("Coates"), which is submitted herewith in an Information Disclosure Statement. The examiner has not pointed to the limitations of the claimed method in either Joliffe (or in Coates). In particular, the examiner has not pointed to a starting mesogen having the claimed structure comprising three aromatic rings joined by ester linkages. Where Joliffe does describe more than one

aromatic ester linkage in the method diagrams beginning at col. 45, a mesogen comprising one polymerizable end and one hydroxyl end is reacted with another aromatic moiety comprising a polymerizable end. See Diagram 9, col. 61-62. See also Diagram 10, col. 61 and 62-col. 63 and 64.

The examiner has not established a case of *prima facie* anticipation of the listed claims over Jolliffe.

The examiner also has not established that the claims are *prima facie* obvious over Jolliffe. The examiner has not pointed to a teaching in Jolliffe or in another cited reference of: (1) the suggestion of the claimed method, or (2) the expectation of its success. *In re Vaack*, 20 U.S.P.Q.2d at 1442. Nor has the examiner pointed to a teaching or suggestion in Jolliffe or another cited reference that it would be desirable to make the modifications that would be required to result in the claimed method. *In re Brouwer*, 37 U.S.P.Q.2d 1663, 1666 (Fed. Cir. 1995).

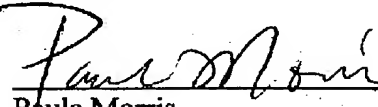
Applicant respectfully requests that the rejection over Schadt be withdrawn.

### CONCLUSION

Applicant respectfully requests entry of the attached amended PTO Forms 1449, the amendments, and reconsideration and allowance of all of the pending claims. New claim 77-104 include all of the limitations of claim 76 and are allowable for the reasons given above.

The Commissioner is hereby authorized to charge any fees in connection with this response, or to credit any overpayment, to Deposit Account No. 50-0997 (SwRI-2835-03) maintained by Paula D. Morris & Associates, P.C.

Respectfully submitted,



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# APPENDIX A